Abstract of the Disclosure

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A time simulation technique for determining the service availability (or unavailability) of end-to-end network connections (or paths) between source and sink nodes is disclosed. The method includes steps of: (a) selecting a link between two network nodes; (b) performing a simulated link failure on the selected link;

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(c) selecting a connection between two network source and sink nodes; and (d) determining the unavailability and availability of the connection under the simulated link failure condition. The method further includes (e) of repeating (c) and (a) and (b); and (f) of summing the unavailability and availability of connections after each repetition until a predetermined number of connections have been selected, and until a simulated link failure has been performed on all

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links; or until the summed unavailability and availability has been determined to converge, whichever is earlier.